



Information Sheet

4. HUSBANDRY

4.11 Hail damaged sugarcane

A hail event has the potential to cause a major reduction in yield and Recoverable Value (RV%) of sugarcane. Even though hail damage varies from one field or region to the next, there are common criteria that allow for the general assessment of hail damage on sugarcane.



How to assess hail damaged cane

It is advisable to wait for at least five days after the hail event before determining the extent of damage to the cane.

It will be necessary to check if there is new growth on the undamaged growing shoots, and to split cane stalks lengthwise to check for damage to any growing points or any discoloration in the stalk.

How does hail affect crop growth?

The amount of leaf area present in a field will determine the yield potential of the crop because green leaves produce dry matter. Hail can damage green leaves and then reduce the amount of leaf material available, which results in a reduced growth rate and ultimately a reduction in yield potential. Young cane (e.g. three months old) is the most susceptible to a long-term reduction in yield after a severe hail event.

Stalks can also be bruised by hailstones and severe stalk damage will make it difficult for the plant to recover. Stalks can become infected with a number of fungal pathogens, especially those that cause red and sour rot.

How does hail damage affect RV yield?

To assess how hail damage will affect RV yield, it is necessary to split the cane stalks lengthwise and make an assessment of percentage Stalk Length Red (SLR%). The more severe the SLR%, the greater the negative impact on RV yield. SLR% and RV yield have been shown to be well correlated: 1% SLR = 1% reduction in RV yield.

The percentage loss in RV% taking SLR% into account can be calculated as follows:

$$\text{Loss in RV\%} = \text{SLR\%} \times \text{RV\%}$$

Example: If RV% is usually 12% and SLR% after a hail event is 5%, then

$$\text{Loss in RV\%} = 5 \div 100 \times 12\% = 0.6\%$$

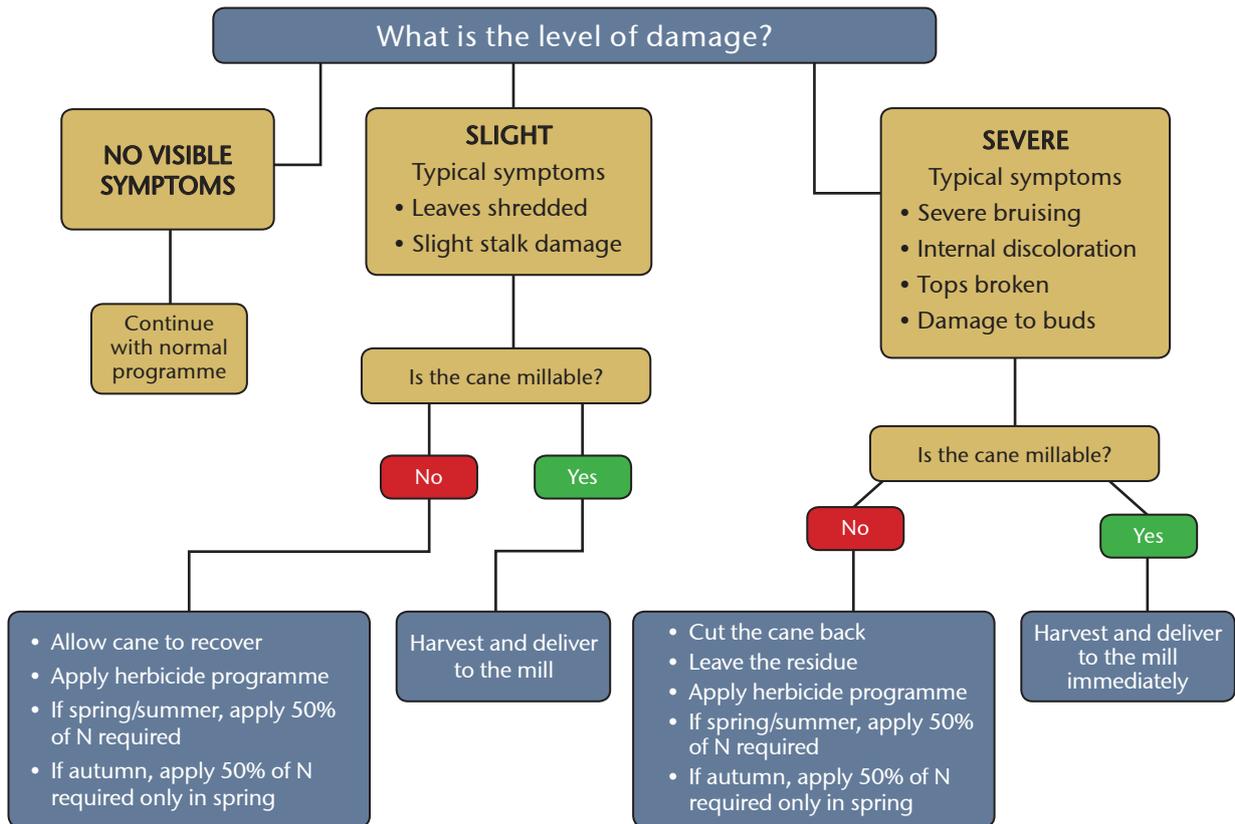
Therefore the final RV% with damage will be
 $12\% - 0.6\% = 11.4\%$

Management decision tree for hail damaged cane

A decision tree has been developed to assist growers affected by either light or severe hail damage. It is important to first identify the extent of damage in all fields. Damage may then be further divided into two categories: Millable and Unmillable cane.

Note: Cane damaged by hail should generally not be used as seedcane.

In addition, high levels of eldana have been associated with high applications of nitrogen fertiliser. Therefore, do not apply more than the recommended amounts below. Also, do not apply nitrogen fertiliser to cane within six months of milling, as this will adversely affect RV%.



Updated by Alana Eksteen (SASRI Crop Scientist: Agronomy)

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